

Environmental impact assessment in Antarctica: application of the “minor or transitory impact” criterion

ANTA 502: Review

Sergey Tarasenko
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Introduction

One of the environmental principles enshrined in Article 3 of the Environmental Protocol is that “activities in the Antarctic Treaty area shall be planned and conducted on the basis of information sufficient to allow prior assessments of, and informed judgments about, their possible impacts on the Antarctic environment and dependent and associated ecosystems and on the value of Antarctica for the conduct of scientific research”. Article 8 of the Protocol introduces the term “Environmental Impact Assessment” and provides three categories of environmental impacts (less than, equal to and more than minor or transitory), according to their significance. However there is no clear definition of “minor or transitory impact” term and difficulties with application of this criterion thus far appear.

This review will attempt to discuss different interpretations of this concept. Also it will briefly describe some aspects of its practical application and approach to preparing EIAs.

General principles of the EIA Process for activity in the Antarctic

The procedures for environmental impact assessment are detailed in Annex I to the Protocol and in the EIA Guidelines, the most recent version of which was adopted by the ATCM in Resolution 4 (2005). In Resolution 2 (1997) the ATCM adopted a methodology for reviewing activities for which a CEE has been prepared.

The EIA is a process whose ultimate objective is to provide the decision-makers with an indication of the likely environmental consequences of the proposed activity. The Process of predicting the environmental impact of any activity and evaluating its significance is the same regardless of the apparent magnitude (volume) of this activity. Some activities require no more than a cursory examination to determine their impact, although it must be remembered that the evaluation level depends on the significance of environmental impacts, rather than on the scale or complexity of the activity. Thus, the picture that emerges with respect to the activity impacts will determine how much further the EIA process needs to be taken and how complex it should be. Those persons responsible for an Environmental Impact Assessment Process need to ensure that they consult as widely as is reasonably necessary and possible in order that the best available information and professional advice contribute to the outcome. A number of different participants may be involved throughout this process, ranging from those who are involved in the details of nearly all parts of the process (e.g. environmental officer, proponent of the activity) to those who are the technical experts who provide input in particular subjects of the process (e.g. researchers, logistic personnel, others with experience at the location or in a particular activity). In addition, EIAs undertaken in Antarctica for planned activities may

represent a valuable source of information. At this respect, it should be pointed out that an updated list of EIAs is presented every ATCM.

The Protocol distinguishes between three levels of EIA:

- Preliminary Stage Assessment;
- Initial Environmental Evaluation;
- Comprehensive Environmental Evaluation.

Each of the three levels of environmental assessment varies according to form, circulation and evaluation.

The first stage is the preliminary assessment, following which, if an activity is determined as having less than a “minor or transitory impact”, the activity may proceed. As a minimum requirement, a Preliminary Assessment (PA) should be carried out for each activity that is subjected to the regime of the Protocol. It is implied, although no guidance is given, that the preliminary assessment is an “in-house” activity. The decision as to whether to progress to the next stage of the assessment process is usually made by the national authority responsible for Antarctic environmental affairs. There is no triggering mechanism that automatically pushes an activity up to the next assessment level. Indicative lists and schedules of activities that require a second level of assessment, often found in domestic environmental legislation, do not exist in the Madrid Protocol. Most countries do not maintain such lists and the judgment about the level of assessment usually rests with the policy and/or environment representatives in the responsible national authority.

The second level of assessment is the initial environmental evaluation (IEE). If the likely impacts of an activity are no more than “a minor or transitory impact”, an Initial Environmental Evaluation (IEE) must be undertaken, unless a CEE is undertaken. The IEE should include sufficient detail to assess whether the proposed activity may have more than a minor or transitory impact and must include the following information: a description of the proposed activity, including its purpose, location, duration and intensity; and consideration of alternatives to the proposed activity and any impacts that the proposed activity may have on the Antarctic environment, including cumulative impacts in light of existing and known planned activities and existing information on such activities.

The third level of assessment is the comprehensive environmental evaluation (CEE) which must be prepared for any activity likely to have “more than a minor or transitory impact”. The CEE must be publicly available and circulated to interested Consultative Parties, allowing 90 days for comments. Once comments have been incorporated the draft

CEE is forwarded to the Committee for Environmental Protection (CEP) and the Consultative Parties at least 120 days before the next Consultative Meeting.

Application of the “minor or transitory impact” criterion for EIA in Antarctica

Analysis of the development of the EIA instrument within the Antarctic Treaty System shows that the terminology “more than a minor or transitory impact” originates from the wording “significant impacts” that was used in the code of conduct of 1975 and the EIA guidelines of 1987. The reason to use the wording “less (more) than a minor or transitory impact” was based on concerns about the unclear meaning of the term “significant” (and its opposite, “negligible”). One can question, however, whether this wording creates more clarity.

The meanings of “minor” and “transitory” are not clear in the context of the Protocol. Although the key to decide whether an activity shall be preceded by an IEE or a CEE is the concept of “minor or transitory impact”, no agreement on this term has so far been reached. The difficulties with defining “minor and transitory impact” thus far appear to be due to the dependence of a number of variables associated with each activity and each environmental context. Therefore the interpretation of this term will need to be made on a case by case site specific basis.

As the terms “minor” and “transitory” are capable of widely varying interpretation, to ensure their consistency it would be desirable if Treaty parties could agree upon a collective understanding on their interpretation. This has been the subject of discussion at recent meetings.

New Zealand took the initiative in 1996 and 1997 to prepare a number of papers on this topic, which contained a thorough analysis of how some of these essential terms in the EIA process should be interpreted. These papers gave a series of definitions, dealt with the concept of “transitory” and helped to put a value or ranking on it and used an exemplar approach to provide an indication of the level of assessment required. New Zealand asserted that the three identified in “levels” of EIA need to be seen as isolated and static: “The carrying out of the evaluation is what actually enables us to determine what the level of impact is likely to be, and “lower” level evaluation may lead to the decision that a “higher” level evaluation is required”. A conceptual model was also provided as how the key terms “minor” and “transitory” should be understood, and it was suggested that “minor” related to “magnitude” of impact, and that “transitory” related to duration of impact, of which more weight should be attached to duration. Other factor relevant to these deliberations included the significance of the location or space in which the impact might

be felt, the instrumental and intrinsic values attributed to both the site of the activity and the activity itself, and the probability of impact.

At XXX ATCM New Zealand considered it would be appropriate for the Consultative Parties to express collectively their view that tourism and other non-governmental activities should have no more than a minor or transitory impact upon Antarctica, by means of a resolution. In the case of any proposed tourism or other non-governmental activity which is likely to have more than a minor or transitory impact upon the Antarctic environment the Parties should decide that the activity should not proceed.

Other contributions to the debate have been made by Russia, Brazil and Argentina.

For instance, Russia emphasizes the “relative” character of “minor or transitory” and argues for simplified EIA procedures for “irreversible destroyed regions” such as active and abandoned stations and nearby areas. At XXII ATCM, Russia presented an official document, which reflects a real mechanism for applying the “minor or transitory impact” criterion that allows the clearest determination of the magnitude of environmental impacts of different activities. The position adopted by the Russian Party in the Antarctic Treaty System in respect of these criteria is outlined below. The Antarctic area presents a vast pristine territory including several dozens of abandoned or inhibited regions restricted in area with their own environment differing significantly from the virginal territory. According to Articles 2 and 3, Annex I to the Protocol, the “minor or transitory impact” criterion is a key criterion to determine the need for conducting the IEE or CEE. Different approaches can be used in terms of defining the meaning of this criterion. In spite of attractiveness of numerical methods based on the specific spatial (geometric dimensions) or temporal characteristics of the activity, they do not possess universal qualities and cannot hence be applied to the Antarctic conditions. It is obvious that one and the same type of activity will incur a different environmental damage to virgin (intact) and transformed (impact) areas that have been repeatedly exposed to such impact. Much of the territories of Antarctic stations and adjoining areas have been already transformed to such an extent that they will never serve as examples of the virginal nature of the continent. That is why a “minor or transitory impact” criterion should differ significantly for the impact and intact areas. In view of this fact, the activities planned in the intact area can be assessed as having less than a “minor or transitory impact” only if they fully exclude the impacts referred to the second category, i.e. principally new for the given natural system. In future, it seems to be very promising to create an Inventory of Antarctic Territories that will record in the chronological order all types of the conducted activity with the indication of routes, description of the types of activity and potentially inflicted damage. This Inventory will help to delineate the

most clean (intact) and polluted (impact) areas of Antarctica with the aim of their more rational use and will help to preserve the intact territories for future scientific research.

In order to standardize the approach to defining a “minor or transitory impact” criterion in planning the activity in Antarctica, it is advisable to identify the following groups of areas differing in the extent of environmental transformation (inflicted environmental damage): non-recoverable areas (irreversibly (completely) transformed) – territories of operating and abandoned (scientific) stations and seasonal bases including areas for support of their activities; recoverable areas (reversibly (partly) transformed areas), fieldwork areas, territories along the sledge-tractor traverses, areas of airborne and ship borne logistics operations beyond the station territory, buffer zones between the non-recoverable and a conventionally intact area (up to 100 km long); conventionally intact areas – other areas of Antarctica (territories outside a buffer zone).

Depending on the age and size of the station and the inflicted environmental damage, the non-recoverable areas can comprise up to several square kilometers. The environment of these areas has been changed as a result of multiyear man activity and has lost its pristine character forever. Provided the conservation was properly done excluding any possibility of further damage, artificial landscape reconstruction (reclamation) in such areas is not advisable due to the following: these areas are part of the historical process of man/environment interaction being thus of a specific historical value; they have already been sufficiently studied, developed and adapted for man habitation; a dynamic equilibrium in interaction with the environment has been established in the non-recoverable territory; measures to reconstruct the disturbed landscape will have an additional environmental impact and the damage inflicted can be greater compared to the existing levels; reconstruction of the initial landscape may lead in the future to errors at the conduct of scientific research. Some areas of former intense human activities, referred to this category, have been already listed as the historic sites, for example, the former whaling base on Deception Island. The non-recoverable areas present areas of man habitation with the necessary environment including the entire infrastructure. Knowledge stored in these areas can serve as a basis for further studies. Within the non-recoverable areas, there should be a program of environmental impact monitoring and the area management plan regulating all activity. Any activity within the non-recoverable areas shall be regulated by the established standards and rules. In the process of activity carried out in the non-recoverable territory, the environmental elements have been adapted to the specific types of impact resulting in the dynamic equilibrium within a conventionally enclosed “man – environment – NA” system. The environmental component areas have

attained stability to some specific types of impact and continuation of similar activity within this system will not inflict any additional damage. The term “damage” applicable to this category of Antarctic areas means “additional damage” and will be used in the cases where a new adverse environmental impact is either significantly greater than the existing levels or qualitatively differs from the already existing types of impacts.

Recoverable areas are boundary (separating) areas between the intense man activity (increased activity) areas and the intact areas. Any activity undertaken here requires a preliminary EIA. The application of the term “damage” is possible on condition similar to non-recoverable territories.

Conventionally intact areas are of actual value due to their pristine (virgin) character and purity. The access to these areas will have to be strictly regulated and a “minor or transitory impact” criterion should be defined for all types of the supposed impact. In conclusion, it is stressed that a “minor or transitory impact” criterion is of a relative character and to determine its absolute magnitude the following should be taken into account: individual capability of natural systems and objects of self-recovery, including the duration of the natural evolution cycle and the range of natural fluctuations; character of anthropogenic impact in terms of its similarity to the natural processes; anthropogenic background of the area.

The “minor or transitory impact” criterion and the requirements to justify any proposed activity for three indicated types of areas should be different. Since main activities are centered at present in the non-recoverable areas, a simplified EIA procedure for these areas appears financially reasonable and not contradicting the basic principles of the Protocol.

At XXII ATCM Australia introduced working paper which reported on the intersessional work it had coordinated to consider the usefulness of existing EIA guidelines in obtaining a better understanding of the terms “minor” and “transitory” contained in Annex I of the Protocol. Australia invited prospective participants to take part in the work and to forward their EIA guidelines (if any) for consideration by contact group. The following Parties expressed interest in participating in the intersessional work: Argentina, Australia, Brazil, New Zealand, the Republic of Korea and the United Kingdom. None of the guidelines examined attempted to define “minor” and “transitory”. The guidelines provided, together with advice from Parties and information provided in recent ATCM papers, suggest that Parties do not intend the guidelines to provide a methodology for evaluating the level of significance of the impact they identify. There is, however, clear agreement between the guidelines regarding the information required to be compiled in an

EIA, and general structure in which it should be presented so that the level of significance can be determined. There is a strong suggestion that if the required information is provided an appropriately qualified assessor will be able to make a reliable assessment of significance. A comparison of predicted impacts across a range of activities in range of environments should yield a practical consensus definition of “minor” and “transitory”. For this to occur, it is important that impacts be assessed and described with similar language, qualitative and quantitative.

The COMNAP guidelines suggest describing the “expected nature of the impact as well as their extent, duration, intensity and probability”, and their analysis using “state-of-the-art methodologies and appropriate expertise, experience, empirical evidence, results from previous studies and monitoring”. The UK guidelines take this further by suggesting “maps, checklists and matrices” and citing formally published specialist advice. The Australian guidelines offer a list of environmental values on which impacts should be measured, which accords with the values set in Article 3. The explanatory guidelines and proformas developed by some Parties have codified the EIA process to some extent, however the terms “minor” and “transitory” remain undefined.

Conclusion

At XXXI ATCM in accordance with Resolution 1 (2005) the Secretariat of the Antarctic Treaty presented “Annual list of Initial Environmental Evaluations (IEE) and Comprehensive Environmental Evaluations (CEE) prepared between April 1st 2007 and March 31st 2008”. Fifteen Parties submitted information on a total of one CEE and eighty three IEEs prepared for that period. There is an example below of activities determined as having less, no more than or minor or transitory impact:

- tourist cruise (*no more than a minor or transitory impact*);
- tourism: land-based and aircraft (*no more than a minor or transitory impact*);
- educational expedition (*no more than a minor or transitory impact*);
- science (*no more than a minor or transitory impact*);
- documentary movie (*no more than a minor or transitory impact*);
- construction of a station (*minor or transitory impact*);
- annual expedition (*less than a minor or transitory impact*).

References

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